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THE EXTENSION ANIMAL HUSBANDMAN

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and Extension Service, Cooperating,
C. D. Lowe, Senior Extension Animal Husbandman,
K. F. Warner, Animal Husbandman in Meat Extension

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PROGRESS OF THE BETTER SIRES - BETTER STOCK CAMPAIGN

by D. S. Burch
In Charge of Public Information, Bureau of Animal Industry.

The campaign for livestock improvement, sponsored by the Federal Bureau of Animal Industry under the slogan, "Better Sires - Better Stock," began in 1919, as an educational means of enlisting public interest in the use of purebred sires.

This campaign has been maintained largely as a supplementary part of the publication work of the Bureau of Animal Industry. The Bureau has supplied to livestock specialists, county agents and others interested, on request, enrollment forms, purebred-sire barn signs, and certificates of recognition and has sent out to cooperating agencies posters, outlines for scrub-sire trials, and other educational material. Sample copies of such material are available for extension agents and organizations desiring to stimulate interest in the improvement of livestock in their communities. The distribution will continue as long as the present moderate supply lasts.

During the period from July 1, 1932, to June 30, 1933, 218 enrollments in this campaign were received from 16 counties located in four States--Iowa, New York, Michigan and Utah. The county from which most enrollments were received during the year was Tuscola County, Mich., 100 new members being submitted by E. L. Hammond, county agent, Caro, Mich. The next highest figure is that of Madison County, N. Y., represented by 57 names, and this group was submitted by D. Leo Hayes, county agent, Wampsville, N. Y. Arenac County, Mich., the next highest, contributed 20 enrollments during the period. These were sent to the Bureau by James M. Gosline, county agent, Standish Court House, Mich.

Summary of State and County Enrollments

At the end of the fiscal year, June 30, 1933, there were 43 States having 50 or more persons enrolled; and 5 States having enrollments over 1,000, the highest being Kentucky, with an enlistment of 3,550 registrants. During the year the total number of enrollments, since the campaign began, passed the 18,000 mark, reaching 18,046 on June 30.

Enrollments, by counties having 100 or more registrants, up to June 30, 1933, represent 45 counties in 11 States--Connecticut, Kentucky, Michigan, Nebraska, Ohio, Oklahoma, South Carolina, Vermont, Virginia, Washington, and West Virginia. Tuscola County, Mich., is the new entrant into this class during the year, having contributed more than 100 enrollments.

The number of counties free from grade and scrub sires of

various kinds remained unchanged during the last fiscal year. According to information on June 30, 1933, they are:

Counties free from all grade and scrub bulls:
Union County, Kentucky
Craig County, Virginia
Russell County, Kentucky
Taylor County, Kentucky

Counties free from grade and scrub dairy bulls:
Gaston County, North Carolina
Wasatch County, Utah

County free from grade and scrub boars:
Taylor County, Kentucky

Progress in Kentucky.

Wayland Rhoads, Field Agent in Animal Husbandry (Ky.), recently furnished the following summary of results observed in that State:

"The last few years Kentucky has continued in livestock improvement. The last legislature passed a law which permitted the licensing of only purebred bulls in the State of Kentucky which has helped to create a greater demand for purebred bulls within the State. The quality of livestock of all kinds all over Kentucky is improved.

"The number of purebred beef cattle herds is increasing each year. Kentucky spring lambs have been increasing in quality and finish as the years go by. Poultry flocks are largely free of diseases and better sanitation, feeding and breeding is practiced throughout the State."

Reports of Local Activities Invited

The Bureau welcomes reports of progress in livestock improvement in various parts of the country. It is believed that there are many localities in which such progress by means of the Better Sires - Better Stock method, can be hastened at little or no expense to those concerned. Persons desiring further information regarding the aims and results of this work may obtain it from the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C.

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IDAHO BEEF CATTLE PROBLEMS

BY
E. F. Rinehart, Field Animal Husbandman

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Livestock extension in Idaho consists of both range and farm work. In addition to well-established beef cattle and sheep industries on the range, there are 40,000 farms in the State with which livestock extension problems are similar to those of the Middlewest and the East.

Among the producers of beef cattle there are three separate and distinct classes of operators, namely, range cattlemen, pure-bred breeders, and cattle feeders. Each is a separate and distinct class with problems so different that extension work with one group is of only indirect interest to the others. For this reason separate projects must be carried with each.

One project carried with the range cattlemen for the last seven years was adopted at a conference of cattlemen, Forest Service and Extension Service representatives. Market demands for smaller, lighter cuts of beef, and a desire of western as well as Corn Belt feeders for calves instead of older cattle, were bringing about a general opinion that just as two-and-three-year-old wethers had become a thing of the past, perhaps the day of two- and three-year-old steers was gone. The discussion ended by the appointment of selected cattlemen and the field animal husbandman to act as a committee to work on this problem.

Unlike the ranch and farm problems, which are well understood in the colleges, many of those of the range still await solution. Much extension work on the range has lacked the guidance of experimental data and published literature. The problem was undertaken by cooperation with range cattlemen who kept accurate records of their yearly operations. During the seven years a total of 138 cattlemen cooperated in the project. The question of the most profitable age at which range cattle should be sold may be summarized as follows:

1. Size of calf crop saved
2. Relative cost of running cows compared with steers
3. Comparative prices of steers at different ages
4. Production cost of steers at different ages

On the cow-and-calf basis operating costs are heaviest. Compared with the steer herd, the breeding cow herd makes less complete

utilization of the range, and involves more expense, due to:

1. A heavier death loss of cattle in a cow and calf herd
2. Depreciation in value of the breeding stock as they increase in age
3. Bull charge, since each 25 cows carry the expense, loss and depreciation of one bull
4. The maintenance of dry cows charged against the calves

As a five-year average, counting all items of depreciation, feed and range costs, labor and salt, horse and wagon expense, interest, losses and depreciation of the cows and bulls, it was found that calves were costing more to raise than their market value. The depreciation alone on registered bulls ranged from $20.00 to $32.00 per head per year. Dividing the bull expense by the number of calves raised gave a bull cost of from $2.69 to $3.68 per head against each calf.

Dividing the expense of the cow herd among the calves raised gave a cost of each calf at weaning age of $30.82. In but few of the years could the calf be sold for this price. If calves were to be sold at a profit from the average range, the value of the feeder calf should have been 1½ cents per pound more than the value of an older steer. Selling a calf at $25.00 made a loss of $5.82 per head.

The average cost of running a calf one year longer was $17.45. To run him to a two-year-old cost $18.92 per head, while to run the two-year-olds to three-year-olds cost $20.52.

The weights of cattle of different ages over the seven-year period gave the following averages:

Class of Cattle	Number	Average Weight lbs.
Calves	5,546	322
Yearling steers	10,435	646
Two-year-old steers	42,132	994
Three-year-olds	5,048	1,216

The disposition made of the above cattle was as follows:

2,541 calves to feed lot, average weight 389 pounds.
3,005 calves held over as stockers, average weight 265 pounds
3,282 yearling steers to feed lot, average weight 695 pounds
7,153 yearling steers (stocker cattle), average weight 637 pounds
20,645 two-year-old steers shipped to market, average weight 1,051 pounds
21,487 two-year-old steers to feed lot, average weight 939 pounds
4,561 three-year-old steers to market, average weight 1,229 pounds
487 three-year-old steers to feed lot, average weight 1,106 pounds

At the present time the situation is still so puzzling that no one system can be recommended. Among the cooperators three outfits are successfully raising and marketing calves. Of all the remainder the conclusion is that the younger cattle grow and develop on the range, but carry so little surplus fat that they are stockers rather than feeders. Of the older cattle, approximately 50 per cent of the two-year-olds, and most of the three-year-olds and dry cows fatten on the range. The feed consists of nutritious roughage, so that the finish taken on by the older cattle is comparable to that put on by hay alone. The young cattle grow but do not fatten. Most calves come in from the range in good, thrifty condition, but with the milk fat gone.

The system of holding the steers to an older age enables them to go to market without the expensive detour through the feed lot. The average price per hundredweight was greater for the older cattle than for the calves, due to the premium paid for fat over feeder cattle. The result is that in spite of the strong market demand for the small, light cuts of beef, the Idaho producers have not yet solved the problem of how best to produce it on the range.

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PERSONNEL NOTES

C. V. Wilson of the college and experiment station staff of West Virginia University is now devoting part time to field extension work in West Virginia.

G. L. Burleson, swine specialist in Louisiana has been transferred to county agent work in the reorganization program in that State.

J. W. Burch, Missouri extension animal husbandman, has been giving assistance to the emergency pig-and-sow-marketing program at the St. Joseph, Mo., market.

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UTILIZING THE LOCAL PRESS

"Newsy articles with action photographs are essential in carrying a meat program to the farmers", according to C. W. McDonald, Extension Meat Specialist at Iowa State College. "Bulletins make the permanent record, of course, but the main facts can be hammered home most effectively by the local newspapers."

Mr. McDonald practices what he preaches, too. He supplies the Iowa papers with numerous ready-made articles. These articles are used to arouse interest before the meeting, to report the meeting, and to suggest other ideas or ways in which the farmer and community can use meat work to its own advantage. Samples of these articles are submitted for illustration. It will be noted that only the opening paragraph of each article has been copied here. With true newspaper technic, the story has been told at the beginning. Only those who want more detail need read beyond that opening.

In case there are any who would wish to criticise "Mac's" style or grammar, it should be pointed out that this material was taken from clippings. In other words, it has all been accepted and used by at least one commercial editor.

PROMOTION

"There never was a time when butchering of hogs paid bigger dividends than now, according to Rex Beresford, Extension Animal Husbandman at Iowa State College . . . ."

"When a hog worth $4.50 per hundredweight on the market is butchered at home for family consumption, it returns $8.50 per 100, according to C. W. McDonald, Extension Meat Specialist at Iowa State College . . . . "

"Butcher the spring and summer meat supply during or before the last week in January. This is the recommendation being made by C. W. McDonald, Extension Meat Specialist . . . . "

EXECUTION

"Sticking hogs, a task which often causes the home butcher trouble, is not difficult if directions are carefully followed, according to C. W. McDonald . . . . "

"Families who butcher their own hogs may obtain pork chops instead of back bone if the suggestions concerning cutting up the carcass outlined by the Iowa Extension Service are followed . . . . "

"A community hog slaughtering plant to enable farmers to kill their meat for home consumption easily and quickly is suggested by C. W. McDonald . . . . "

"Canned meats of various kinds, cured hams, bacon and shoulders will be found on the cellar shelves and in store rooms of many thousands of Iowa farm families and in cities and towns, too, before the winter is over, according to C. W. McDonald . . . . "

"All kinds of meat, meat stock, and soups will be canned by the cold pack method. If one has canned such vegetables as peas, beans, and corn successfully, there should be no difficulty in canning meats . . . . ".

"'Home Butchering in Iowa' is the title of an illustrated pamphlet issued this week by the Extension Department at Ames. It contains detailed suggestions for killing, cutting, chilling, curing, and canning meats. The illustrations show the best methods for throwing, holding and sticking a hog. . . . "

HOUSEWIFE AND RETAILER PROGRAM

"The advantages of using all cuts of meat rather than a selected few will be pointed out by C. W. McDonald of the Iowa State College Extension Service in the meat school for homemakers of Shelby County to be held . . . . "

"Proof that there are up-to-the-minute styles in retail meat cuts as well as in frocks and gowns will be provided in the meat lectures and demonstrations to be held in the Gold Room of the Hotel Muscatine at 2 o'clock Friday afternoon, when C. W. McDonald . . . . "

"Housewives of Oskaloosa and vicinity will receive valuable assistance in solving their money problems of meat selection and preparation through the efforts of the Mahaska Farm Bureau in securing one of the district meat cutting demonstrations given by .."

"Dickinson County Farm Bureau will sponsor a series of two meat demonstrations to be held in the County next week . . . . "

"The value of the meat thermometer to the housewife in cooking meat was explained before a large audience at a meat demonstration given in Boone on Wednesday afternoon by Professor . . . . "

Ready-made articles of this type written in a newsy fashion and concentrated on a single point rather than the entire subject

have rendered real service to the people of Iowa.

Other articles that could be written are suggested in the following opening paragraphs that would fit into the meat programs being conducted in the various States. An attempt has been made to use the newsy pattern that McDonald found so effective.

"Forty hogs from fifteen different herds were dressed yesterday for the Bald Nob farmers at their new community hog killing plant which is erected on Jim Lacey's farm . . . . "

"Pasture rotation proved the most effective way for reducing the parasitic infection of hogs according to the tests completed yesterday on Milt Muldrow's farm. Hogs from five farms which were cooperating with the county agents in a sanitary program were slaughtered at a home-built hog slaughtering unit which was just recently completed on Bill Derrick's farm. Dr. Jacob who came down from the University to inspect these hogs said that he had rarely seen a lot of pigs freer from disease and parasites than Mr. Muldrow's . . . . "

"Seventy more cans of beef were put up from a Hereford calf than from a native calf of similar age at a demonstration conducted yesterday on Shack Sheely's farm which is just west of Piney Woods. Seventy more meals for the family without considering difference in quality just because Shack bought a Hereford bull last year . . . "

"Consumers in Starkville will have an opportunity to enjoy the meat from Paul Newell's entire crop of choice spring lambs according to the word which is given out by the local meat retailers who attended a grading and slaughter demonstration at the Newell farm yesterday. 'These are the best lambs that have ever been produced in this County,' said Mr. Price, president of the local retail association. Although they are only first cross lambs from native ewes, that good blood coupled with Mr. Newell's carpet grass pasture has produced a quality of lamb that I am sure all Starkville people will appreciate most highly . . . "

All of us admit a definite awkwardness with the pen and all of us profess a natural modesty. The fact remains, that newspapers can be of real assistance in carrying our program to whom it will serve. Most newspapers appreciate ready-made articles if they are put up in newsy style. If these articles are accompanied by action pictures and the whole thing set up in mats or cuts, they may thank us twice.

—K.F.W.

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A COMPARISON OF WOOL GROWTH UNDER MARYLAND AND IDAHO CONDITIONS

By J. I. Hardy,
Senior Animal Fiber Technologist, Bureau of Animal Industry.

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It is a rather common belief that wool grows better under range conditions such as prevail in the Intermountain region of the West than in the eastern part of the United States. Data obtained from a group of Corriedale sheep maintained at the U. S. Animal Husbandry Experiment Farm, Beltsville, Md., and a similar group kept at the U. S. Sheep Experiment Station, Dubois, Idaho, are interesting in this connection.

The study from which the data were obtained was begun in the spring of 1929 when 11 head of yearlings were selected from the Dubois Corriedale flock, particular attention being given to their uniformity. Seven of these sheep remained at Dubois, while four were transferred to Beltsville where, during the following three years, records of wool production were obtained. One of the Beltsville group died in 1932.

The group remaining at Dubois was handled under average range conditions, grazing on the range when possible and kept in the range feed-lot during late December, January, February, and early March, where they received alfalfa hay. During late February and early March, or about a month prior to lambing, they received from one-fourth to one-half pound of grain per head per day. The Beltsville group ran on farm pastures from the first of April to the middle of November. The remainder of the time they were in barnlots, getting 3 pounds of legume hay and 2 pounds corn silage per head per day. From about the middle of January to the middle of May while nursing lambs they received three-fourths of a pound of mixed grain per head per day.

The following table shows the percent of clean wool as well as pounds of clean wool per fleece. The increased yield of clean wool per fleece is also shown for the Beltsville group.

Wool Production Comparison

		Year			
		1929*	1930	1931	1932
Percent of clean wool - - -	(Dubois group	36.86	37.26	39.02	41.75
	(Beltsville "	38.80	53.43	49.45	52.20
Percent in favor of Beltsville group		1.94	16.17	10.43	10.45
Pounds clean wool per fleece	(Dubois group	4.15	4.00	5.08	3.94
	(Beltsville "	4.52	5.74	6.91	5.58
Pounds clean wool per fleece in favor " "		.37	1.74	1.83	1.64

*The sheep were all sheared at Dubois as yearlings in 1929.

Each year the sheep at Beltsville had a net increase, over the Dubois group, of more than 10 percent of clean wool. This was a net average of 1.37 pounds more clean wool per fleece which amounts to an increase of 31.6 percent over the average clean wool fleece weight of 4.34 pounds obtained at Dubois.

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ILLINOIS HORSE SITUATION

by
E. T. Robbins, Livestock Extension Specialist

- - -

Illinois horses are old and steadily growing older. For ten years there has been an increasing scarcity of colts. The average farm in Illinois is supplied with horses which are much beyond their prime in age.

During this period of declining horse breeding, there has been a steady decline in the numbers of horses on Illinois farms. The place of the horses which are gone has been taken by motors. Still it is true that a large proportion of farms have nearly enough horses to do all of the work, provided the operations are planned so as to spread the work as much as possible throughout the season.

During the last two years there has been an increasing demand for farm horses in Illinois. Feed has been cheap and farmers have realized that the horses were doing the work with a very small cash expenditure. Consequently even farmers who own tractors have made a special effort to keep all their horses working steadily during the busy season. The demand for horses has pushed the prices up gradually so that horses now are about the highest priced farm product we have in Illinois.

The demand for horses has made a demand for stallions. Last spring many young stallions were bought by Illinois farmers and put right to work in the harness and also used for breeding purposes. In some communities more foals are evident this year than last year and a still larger number is in prospect for next spring.

The busy season this year was extremely hard on the horses. Illinois had continuous rains during May, with practically no work done in the fields. Then June turned very hot from the start. Horses were soft and farmers were in a hurry. A great many horses were killed by the heat. Every available tractor was pressed into use to help catch up with the work.

The loss of horses during the hot weather certainly was unnecessary. Many men who operate exclusively and continually with horses had no loss this year and have their work in good shape. An example is Henry Jurgens, of Moultrie County. He farms 400 acres of heavy prairie land, all in cultivation this year, with 14 Percheron horses. Eight of the mares had foals but three foals were

lost by accidents. Five foals were raised. These 14 horses did all the work on the 400-acre farm excepting three days' help of a tractor. Mr. Jurgens' crops are much above the average of the neighborhood.

The secret of his success he ascribes to attention to the horses' requirements. In summer he turns the work horses out at night so they can keep as comfortable as possible on pasture and drink what water they want. In very hot weather he takes a barrel of water to the field and waters the horses about once an hour from a bucket. This has been his practice for many years and he never has had any injury to his horses and has never had much delay because of hot weather.

In one neighborhood near Assumption one young farmer became excited because of the backward season and during the early days of June killed by overwork five of his six horses. Several of his neighbors followed the extension specialist's advice and took water to the field for their horses. They got their work done successfully with very little delay and did not hurt any horses.

The reports of farmers at county livestock meetings have shown that fully one-third of them use big-team outfits including five or more horses in a team. Of course these men who attend the extension meetings are among the most progressive farmers. Their general use of this big team idea shows that they regard it as a good thing. This is a pleasing result of the ten-year campaign in Illinois during which big-team demonstrations have been given in 83 counties. The big-team outfits are most plentiful in those communities where the earliest demonstrations were given. This is another evidence that farmers like the big-team outfits. They commonly say that the horses seem to like the big teams, too, and work better in large outfits than in smaller teams. In some communities one seldom sees four horses abreast to a gang plow any more. The plows are pulled by four horses hitched two and two or else by five horses working two and three or by six horses working three and three. The result is much more satisfactory work and greater speed with it.

The tendency at present it to use larger teams for field work and to keep the horses going as steadily as possible. There also is a desire among many farmers to increase their numbers of horses.

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HORSE-AND-MULE WORK IN MISSOURI

The demonstration work on the more efficient methods of hitching and working horses and mules by the use of the multiple hitch has been continued. One hundred sixty-three demonstrations have been given during the year by animal husbandry specialists and county agents. The rapid spread of the use of multiple hitches is remarkable. In 1930, 313 hitches were reported in use; in 1931, 787; in 1932, 2,305. A new type of demonstration in which the four, five and six-horse teams were hitched on separate plows, but at the same time, has proved helpful. Many agents set a day in the spring when one man would be using his multiple hitch in plowing in practically every township in the county. Farmers were advised through the newspapers as to the name and location of the man in their township that would be using the hitch and who would be willing to show them how it worked and how the eveners, bucking-back ropes and tie-in chains were made.

Six plowing contests were held in 1932. Lafayette, Johnson, Cass, Bates, and Audrain counties had separate county plowing contests while Grundy and Livingston counties had a joint plowing contest. Two thousand one hundred fifty interested farmers watched these contests. From 30 to 50 horses and mules were used in the various hitches in each contest. There were from three to four teams entered in each of the four, five and six-horse classes in each contest. Demonstrations were given at each contest of hitching the eight or nine horses on three-bottom tractor plows.

The four-horse teams plowed one-half acre, the five's plowed three-fourths of an acre and the sixes one acre. The contestants were judged on their ability as horsemen, quality and rate of plowing, and the time required in hitching and unhitching. The score of 1pp for perfect work was divided into 50 points for horsemanship, 45 points for quality of plowing, and 5 points for time. The judging of horsemanship and plowing was done by committees of three. The timing was done by individual timers assigned to each contestant to keep an exact check of their performance.

These contests have answered many of the questions that practical farmers have been asking concerning the use of horses to furnish farm power and utilize the grains and roughages that are already on the farms and selling below the cost of production. The teams driven tandem with one pair of lines and hitched directly in front of the line of draft demonstrated the efficiency of horses when hitched so as not to be handicapped by crowding or side draft. Farmers driving the teams opened lands with straight furrows and turned corners with such ease as to convince the most skeptical that the tying-in and bucking-back system is simple and more satisfactory than the old system of hitching and driving four head abreast.

The contest was sponsored by the Horse Association of America, harness and hardware dealers in the Missouri trade territory, the Johnson, Cass, Bates and Lafayette County Farm Bureaus and the Missouri College of Agriculture. These contests have gone far to convince farmers how easily teams in large units may be hitched and handled and the ease with which the horses handle the load.

In all horse meetings attention is called to the program of parasite control advocated by the extension veterinarian.

Two colt clubs, one in Marion and one in Monroe County have been organized. The interest in this work is present and as soon as desirable colts are available, through the use of better stallions, the project promises to be one of the outstanding 4-H club activities.

County colt shows promise to become an interesting feature of the horse-improvement program. Such shows were held in Butler, Liberty, and Kahoka Counties. Forty colts were shown at the Butler show and while much was left to be desired in the quality of the offering it furnishes a definite means of starting improvement work. The publicity pertaining to the horse-improvement work in Bates County was largely responsible for one buyer from Pennsylvania purchasing $2200 worth of mule colts in that county at prices ranging from $40 to $80 per head.

--From Missouri Annual Report, 1932.

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RESULTS OF HOG-AND-CATTLE DEMONSTRATION WORK IN MISSOURI

Year	Hog sanitation		Hog feeding		Cattle feeding		Beef herds	
	No. dems.	Farmers adopting practices	No. dems.	Farmers adopting practices	No. dems.	Farmers adopting practices	No. dems.	Farmers adopting practices
1924	53	273	28		12		3	
1925	57	276	75	362	23	72	8	63
1926	38	414	66	653	49	132	31	106
1927	49	520	67	372	22	125	34	245
1928	51	956	77	1,098	40	360	46	295
1929	45	2,553	79	6,322	30	575	36	815
1930	79	3,667	111	3,855	35	1,428	66	2,254
1931	83	4,471	120	7,044	61	721	63	3,106
1932	52	5,460	66	8,674	58	2,194	73	3,964

--From Missouri Annual Report, 1932.

FEEDER-CALF PRODUCTION IN ARKANSAS

by
M. W. Muldrow, Extension Animal Husbandman

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A most satisfactory development of interest in beef cattle has taken place during the last few years. Interest is centered around production and management practices which will give a profit on commercial cattle. This interest is contrasted to an interest just preceding and immediately following the World War which was centered on purebred cattle. At that time many high-priced animals were purchased and a number of foundation herds were put in by individuals lacking experience in handling good cattle of any sort to say nothing of the lack of knowledge of the purebred business. Later these experiences stood out in the minds of most farmers of Arkansas as examples of the possibilities in beef-cattle production. It must be said, however, to the credit of a few individuals, that some of these cattle formed a nucleus for projects through which it was demonstrated what good cattle would do when handled on a commercial basis. This work was started by a few breeders and 4-H Club members in the development and sale of baby beeves.

On account of high feed costs in most years the production of baby beeves was not of general application yet animals developed and exhibited at county and State shows from areas of surplus grain caused a widespread interest in better blood.

The Extension Service, College of Agriculture, University of Arkansas, recognized the limitation in the production of baby beeves and formulated a program of feeder-calf production involving the use of purebred sires with grade cows.

Beginning in 1928 there was a marked tendency in the increased demand for feeder calves as opposed to older feeder cattle. At the time the Bureau of Animal Industry was pushing forward its program of eradicating ticks from Arkansas territory. In these areas purebred bulls were gradually being put in, and in the southwestern part of the State a number of loads of feeder claves were

produced, exhibited, and sold before the low prices of the last two years. The increased price on account of quality and the additional weight obtained on the calves at weaning time by reason of better breeding caused considerable interest in the purchase of more purebred bulls. With such developments as a background, the interest in beef-cattle production in 1932 and 1933 has been running high.

The release of all counties in Arkansas from the fever-tick quarantine in December, 1932, as a result of the program under the direction of the Bureau of Animal Industry, and the less favorable position of cotton in 1932 have been the two main factors stimulating this interest. While the interest was growing, financial conditions were becoming worse making it more difficult to place purebred bulls. All efforts during the winter of 1932 and the spring of 1933 to cause the buying of bulls gave small results until plans were made whereby bulls could be placed in the territories still needing them. An arrangement was made with an Oklahoma breeder to bring in a carload of bulls and distribute them in groups of 10 to 15 in counties where there was an apparent demand. Assistance was given by the Extension Service in locating the bulls in pastures under the management of reliable parties who would act as salesmen for the owner. After the first load was delivered the breeder was so well pleased with the prospects that he shipped into the State another load. Ninety-five registered Hereford bulls were brought into the State in this manner; and groups of other growers purchasing bulls from breeders in the northern part of this State brought the number of purebred bulls placed in new territory to 119 head. In most cases where groups of bulls were placed meetings had been held at which the possibilities of feeder-calf production were stressed. A definite program of production which has been outlined includes use of purebred bulls with grade cows, development of pastures and the use of available outside range, growing of roughage to be used with cottonseed cake or meal for wintering, definite breeding dates for early spring calves, development of calves on milk and grass, and the marketing of the calves at weaning time or about October 15.

As already indicated, in most parts of the State there are only grass and roughage to be marketed through beef cattle. The quality of roughage available and facilities for handling do not justify carrying the calves through the winter for another summer's grazing.

In order to utilize grass to the best advantage in the production of feeder calves the early calving dates are recommended. Cows dropping calves in February and March require less feed than where earlier calves are dropped, and also the calves are early

enough to get some growth from milk alone before they go on pasture where, because of their age, they make maximum use of grass and milk until weaning time.

Due to the low price of cattle many herds are being established at a very low cost figure. The relatively higher prices of good feeder calves compared with prices of the usual run of common steers are lending encouragement to the work even though cattle prices are generally low. With these present conditions satisfactory it is believed that with the return of better prices in both cattle and cotton that a number of these herds will be retained as a supplement to what was once a straight system of cotton farming.

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CREEP FEEDING RANGE CALVES IN TEXAS

A demonstration was planned to determine whether the creep feeding of suckling calves is practical under range conditions in south Texas. A herd of 118 grade Herford cows and their steer calves averaging 273.3 pounds in weight, was divided into two groups. Each group was placed on similar range and approximately 30 acres was allowed each cow and calf. One group of calves received a mixture of 4 parts ground milo heads and 1 part of cottonseed meal supplied in a self-feeder located in the calf creep at the watering place. The other group was not fed.

During the suckling period of 160 days, the creep-fed calves gained 1.39 pounds daily as compared to 0.68 pound for those not fed. During the second period of 86 days following weaning they gained 1.93 pounds daily as compared to 0.55 pound for those not fed. During the suckling period the mothers of creep-fed calves gained 80 pounds per head as compared to a gain of 28 pounds for the other group, and were in much better flesh and thrift. The creep-fed calves were not desirable for slaughter when weaned, but were acceptable killers at the end of the second feeding period. Financial results were favorable to the creep-fed calves for both periods of feeding.

In this trial the calves from aged cows were slightly better gainers on feed, while the first calves from 3-year-old cows did slightly better on grass. A comparison between light calves (those under 250 pounds initial weight) and heavy calves (those above 250 pound initial weight) showed that the former gained 9 pounds per head more during the suckling period than the heavy calves, with no difference in gain in the period after weaning.

--From Texas Annual Report, 1932.

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COLORADO CREEP-FEEDING CALF-WINTERING DEMONSTRATION

The creep-feeding calf-wintering demonstration on the George Tracy Ranch at Maher was completed for this spring and the calves weighed and turned out on April 15, 1932. One hundred and seven late summer and fall suckling calves were divided into two lots and weighed December 30. One lot of 92 head had access to a creep and was fed grain once daily while the other lot of 15 calves had no grain. Cows and calves were fed hay throughout the winter. The following table gives the results to date although each lot has been ear tagged and will be weighed again next fall for the final results.

Average Based on One Average Calf

	Lot 1	Lot 2
Number calves- - - - - - - -	15	92
Weight, December 30, pounds-	248.0	230.8
Weight, April 15, pounds - -	334.0	334.0
Gain, pounds - - - - - - - -	86.0	103.2
Gain per day, pounds - - - -	.81	1.0
Grain consumed, pounds - - -	.00	100.0
Average amount grain per day, pound		.94

The grain consisted of ground barley largely, but part of the time a little ground oats was mixed with the barley. On the basis of this demonstration, 100 pounds of barley, figured at $1.00 ground, put on 17.2 pounds of gain. Calves would have to bring $5.81 per hundredweight to pay for this grain, or the extra gain at 5 cents per pound would pay 86 cents per hundredweight for barley.

This was a fair and accurate test in every way except that the number of calves in Lot 1 not receiving grain was hardly large enough to be fully comparative. Also, it is well known that stock in smaller bunches of a few head naturally will do better, which was the case here. Also, the initial weight of the calves in Lot 1 was slightly greater than those in Lot 2 and more of them were old enough to wean April 15. On April 15, 9 out of 15 calves in Lot 1 were weaned while in Lot 2 only 39 out of 89 were old enough to wean. However, even with these favorable factors in Lot 1, the Lot 2 calves paid for the grain fed on the basis of current market prices.

Another sidelight in this demonstration was that we learned by experience this year that a creep with a hay rack in it will aid in getting all calves into the creep and to eating the grain much better than without the hay.

--From Colorado Annual Report, 1932

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MISSOURI COUNTY AGENTS HOLD LAMB GRADING TOUR

What are the differences between a premium lamb and a good lamb; how are these differences distinguished; what kinds of lambs and what weights do packer buyers prefer and pay best prices for? These were only a sample of the many questions brought before a group of 35 county agents from western Missouri attending a lamb grading demonstration held at the Kansas City stockyards on May 11, 1933.

The demonstration arranged by "Jim" Burch and "Bill" Ewing of the Missouri Extension Department, was one of the most complete programs of this nature ever held in the Kansas City market. On the day previous to the tour Messrs. Burch and Ewing arranged with Swift and Company to grade 70 spring lambs, representing an average mixed shipment to the Kansas City market. These lambs were graded into four lots--premium, top, medium, and common or culls. There were 15 lambs to each lot. Each lamb was numbered, but without numerical order so there would be no way to select the lambs for grade after they were mixed together for scoring the following day. Five lambs were then taken from each graded lot and driven to the packing plant where they were slaughtered and hung in the cooler to be examined and studied by the visiting county agents the following day.

Early the following morning the county agents were handed a score card and asked to grade the 50 remaining lambs into the four grades. After each agent had completed his scoring the lambs were separated again into lots asgraded the previous day. A general discussion, led by Mr. Burch, followed this part of the program, including talks by leading sheep and lamb buyers on the Kansas City market and representatives of the Kansas City Producers.

In the afternoon the demonstration was concluded with a trip to Swift and Company's plant where the four lots of lambs that had been graded and slaughtered the previous day were carefully examined under the direction of Mr. Baxter, head grader for Swift and Company.

--From National Live Stock Producer.

4-H LIVESTOCK CLUB STATISTICS

During the last calendar year, 70,041 boys and 4,615 girls were enrolled in swine projects involving 126,000 hogs; 17,807 boys and 2,456 gorls in beef cattle projects involving 21,596 cattle; 10,936 boys and 2,090 girls in sheep projects involving 34,912 sheep; and 1,207 boys and 88 girls in horse and mule projects involving 1,034 animals.

RECENT PUBLICATIONS

"Some Important Factors Affecting Costs in Hog Production" by Wilcox, Carroll and Horning - Illinois Experiment Station Bulletin No. 390.

"Effectiveness of the Swine Sanitation System in the South" by Nighbert and Connelly - U.S.D.A. Technical Bulletin No. 374.

"The Value of Permanent Pasture for Fattening Pigs" by Hostetler and Foster - North Carolina Experiment Station Bulletin No. 286.

"Developing Club Colts in Indiana" by P. T. Brown - Purdue (Indiana) Extension Service Bulletin No. 197.

"Indiana Big Team Hitches" by P. T. Brown - Purdue (Indiana) Extension Service Bulletin No. 196.

"The Farm Horse" by Z. R. Pettet - Bureau of the Census, U. S. Department of Commerce.

"South Dakota Stockman's Guide" by I. B. Johnson - South Dakota Extension Service Circular No. 331.

"Beef Calf Production" by Trowbridge and Burch - Missouri Extension Service Circular No. 303.

"The Effects of Management and Sex on Carcasses of Yearling Cattle" by Foster and Miller - Missouri Experiment Station Research Bulletin No. 186.

"Modern Methods in Beef Production" by Peters and Morris - Minnesota Experiment Station Special Bulletin No. 146.

"Wheat as a Fattening Feed for Cattle" by Weber and Connell - Kansas Experiment Station Bulletin No. 261.

"Cattle Feeding: Winter Steer Feeding, 1928-29, 1929-30 and 1930-31" by Skinner and King - Purdue (Indiana) Experiment Station Bulletin No. 371.

"Maintenance of Beef Cows for Calf Production" by Vinke and Dickson - Montana Experiment Station Bulletin No. 275.

"Steer Fattening Rations" by J. L. Lantow - New Mexico Experiment Station Bulletin No. 211.

"Steer Feeding" by Thompson and Sander - North Dakota Extension Service Circular No. 119.

"Livestock Judging - Manual for 4-H Clubs" by G. S. Weaver - South Dakota Extension Service Special Circular No. 29.

"Baby Beef - Manual for 4-H Club Members" by I. B. Johnson - South Dakota Extension Service Special Circular No. 27.

"Sanitation as a Method of Controlling Stomach Worms in Lambs" by Hostetler and Foster - North Carolina Experiment Station Bulletin No. 287.

"A Comparison of Feeder Lambs" by Keith and Henning - Pennsylvania Experiment Station Bulletin No. 288.

"The Human Factor in the Management of Indiana Farms" by Wilcox and Lloyd - Purdue (Indiana) Experiment Station Bulletin No. 369.

"Costs of Marketing Virginia Livestock" by P. L. Fletcher - Virginia Experiment Station Bulletin No. 288.

"Linebreeding" by J. L. Lush - Iowa Experiment Station Bulletin No. 301.

"Filling the Farm Storehouse" - Texas Extension Service Circular No. 98.

"Pasture Plants and Pasture Combinations" by Crim and Arny - Minnesota Extension Service Circular No. 40.

"Forest Range and a Forest Range Program" by Chapline and Campbell - A report prepared by Forest Service, U.S.D.A.

"Large-Scale Farming in the United States, 1929" by R. D. Jennings - A joint publication of the Bureau of the Census, U. S. Department of Commerce and the Bureau of Agricultural Economics, U. S. Department of Agriculture.

"Power and Machinery in Agriculture" by Hurst and Church - U.S.D.A. Miscellaneous Publication No. 157.

"Livestock Products" - Chapter IX, Volume IV, General Report on Agriculture - 15th Census of the United States.

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